
Data contained within this fortnightly report is based on information recorded on EpiSurv by public health service staff as at 26 September 2017. Changes made to EpiSurv data after this date will not be reflected in this report. The results presented may be further updated and should be regarded as provisional. Cases still under investigation are not included in this report.

- A significant increase in pertussis notifications for the current four weeks (weeks 34–37) compared with the previous four weeks (weeks 30–33) in 2017.
- A significant increase in pertussis notifications for the current four weeks (19 August–15 September 2017) compared with the same four surveillance weeks in 2016.

Summary

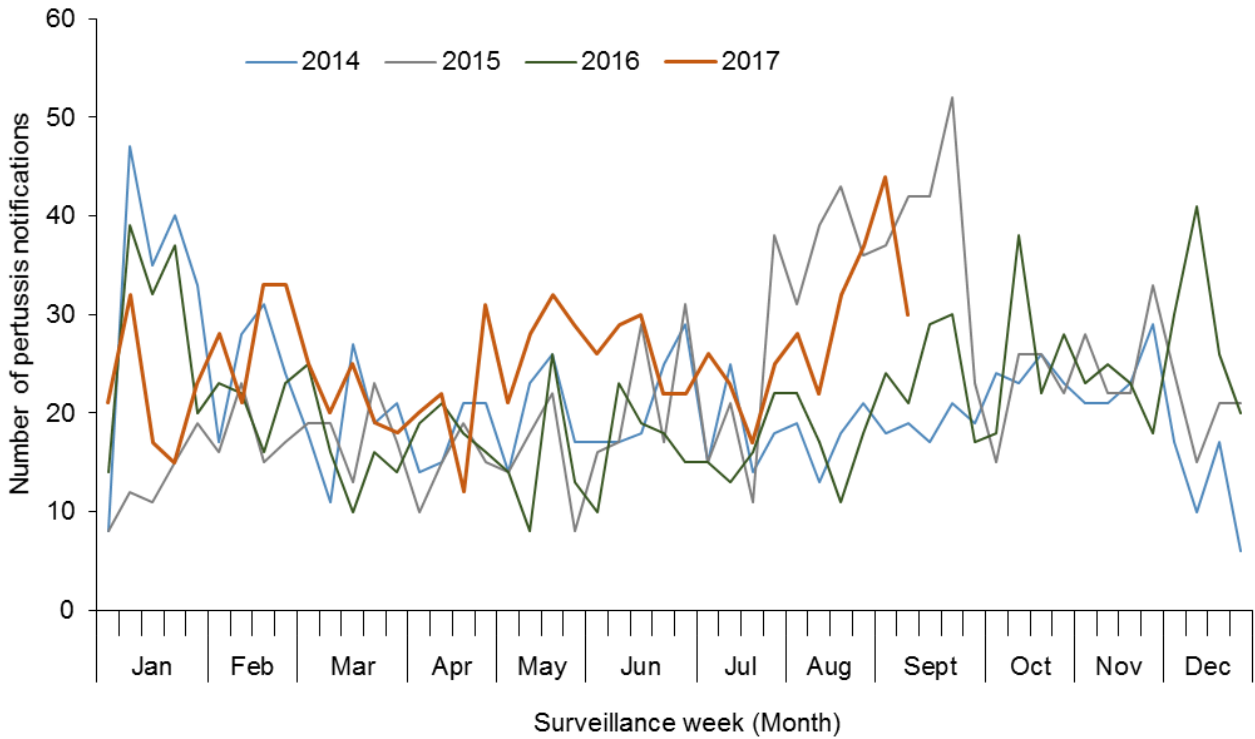
- In the past four surveillance weeks (weeks 34–37, 19 August–15 September 2017), 143 cases of pertussis were notified (32, 37, 44 and 30 cases, consecutively – Figure 1).¹ This included 85 confirmed, 55 probable, and three suspect cases. This is significantly higher than the 74 cases reported in the same four surveillance weeks in 2016 (Table 2). In the past four surveillance weeks in 2017, nine (6.3%) cases were aged less than 1 year and three of these cases were hospitalised. Of all 143 cases, four cases were hospitalised and no deaths were reported.
- From 1 January–15 September 2017, there were a total of 938 confirmed, probable and suspect cases of pertussis notified (20.0 cases per 100,000). Of the 938 cases, 52 cases (5.5%) were aged less than 1 year, of which 25 (48.1%) were hospitalised (Table 1). Of all 938 cases, 67 cases (7.1%) were hospitalised.
- From 1 January–15 September 2017, the highest reported pertussis rates were among the less than 1 year and 1–4 years age groups (87.8 and 48.9 per 100,000, respectively). The ethnic groups with the highest notification rates were MELAA (23.0 per 100,000, 12 cases) followed by European or Other (22.6 per 100,000) (Figure 4). The highest single number of cases was reported in the European and Other ethnic group (703 cases).
- From 1 January–15 September 2017, the highest numbers of pertussis cases were reported by Southern (151 cases), Canterbury (122 cases) and Capital & Coast (104 cases) DHBs (Table 3). The DHB with the highest rate was Southern DHB (47.4 per 100,000), followed by Taranaki (41.1 per 100,000) and Nelson Marlborough (34.8 per 100,000, 49 cases) DHBs.
- This report summarises pertussis notifications for the period from 1 January–15 September 2017 (a cumulative summary). It includes the distribution of cases by time, age, prioritised ethnicity and DHB. A summary of the cases from the current four week period (19 August–15 September 2017) is also provided.

¹ Cases still under investigation are not included in this report. Because cases under investigation have still to be classified (as confirmed, probable, suspect or not a case), the total case counts for surveillance weeks may change in future reports.

Trends in pertussis notifications

Total pertussis notifications by week for 2014–2017 (to week ending 15 September 2017) are shown in Figure 1 below.

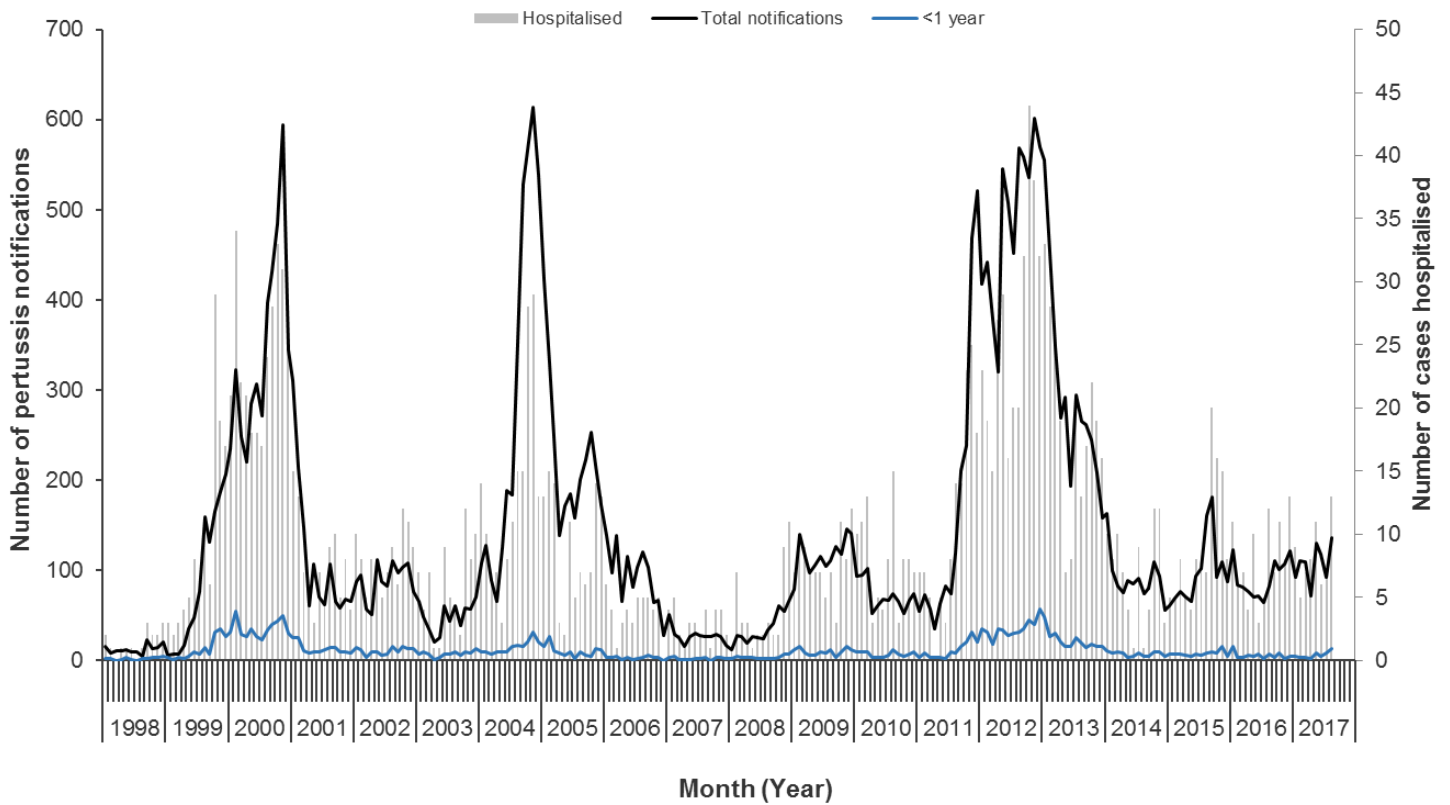
Figure 1: Number of pertussis notifications by week reported, 2014–2017



Note: Includes confirmed, probable, and suspect cases only. Cases still under investigation are excluded.

Figure 2 shows pertussis notifications and hospitalisations by calendar month, and notifications in those aged less than 1 year between January 1998 and August 2017. A four- to- five-year cycle can be seen with large peaks in notifications in years 2000 and 2004 and 2011/12.

Figure 2: Number of pertussis notifications and hospitalisations by month and year, 1998–2017



Note: Includes confirmed, probable, and suspect cases only. Cases still under investigation are excluded.

Age

The number of pertussis notifications, rates and hospitalisations by age group are shown below in Table 1 (cumulative total for 2017). Table 2 shows the number of notifications and hospitalisations during the current four surveillance weeks in 2017 compared with the same four surveillance weeks in 2016.

Table 1: Number of (confirmed, probable and suspect) pertussis notifications, rates (cases per 100,000 population) and hospitalisations by age group, 1 January–15 September 2017

Age group (years)	Total for 2017 ¹		Hospitalised ¹	
	Number of cases	Rate ²	Number of cases	Percent (%)
<1	52	87.8	25	48.1
1–4	120	48.9	7	5.8
5–9	124	38.5	3	2.4
10–14	89	30.2	0	0.0
15–19	88	27.6	0	0.0
20+	465	13.5	32	6.9
All ages	938	20.0	67	7.1

¹ Cumulative total 1 January–15 September 2017

² Rate of pertussis cases per 100,000 population calculated using 2016 mid-year population estimates. Where fewer than five cases have been notified a rate has not been calculated.

Table 2: Number of (confirmed, probable and suspect) pertussis notifications and hospitalisations in surveillance weeks 34–37 in 2017, compared with the same period in 2016

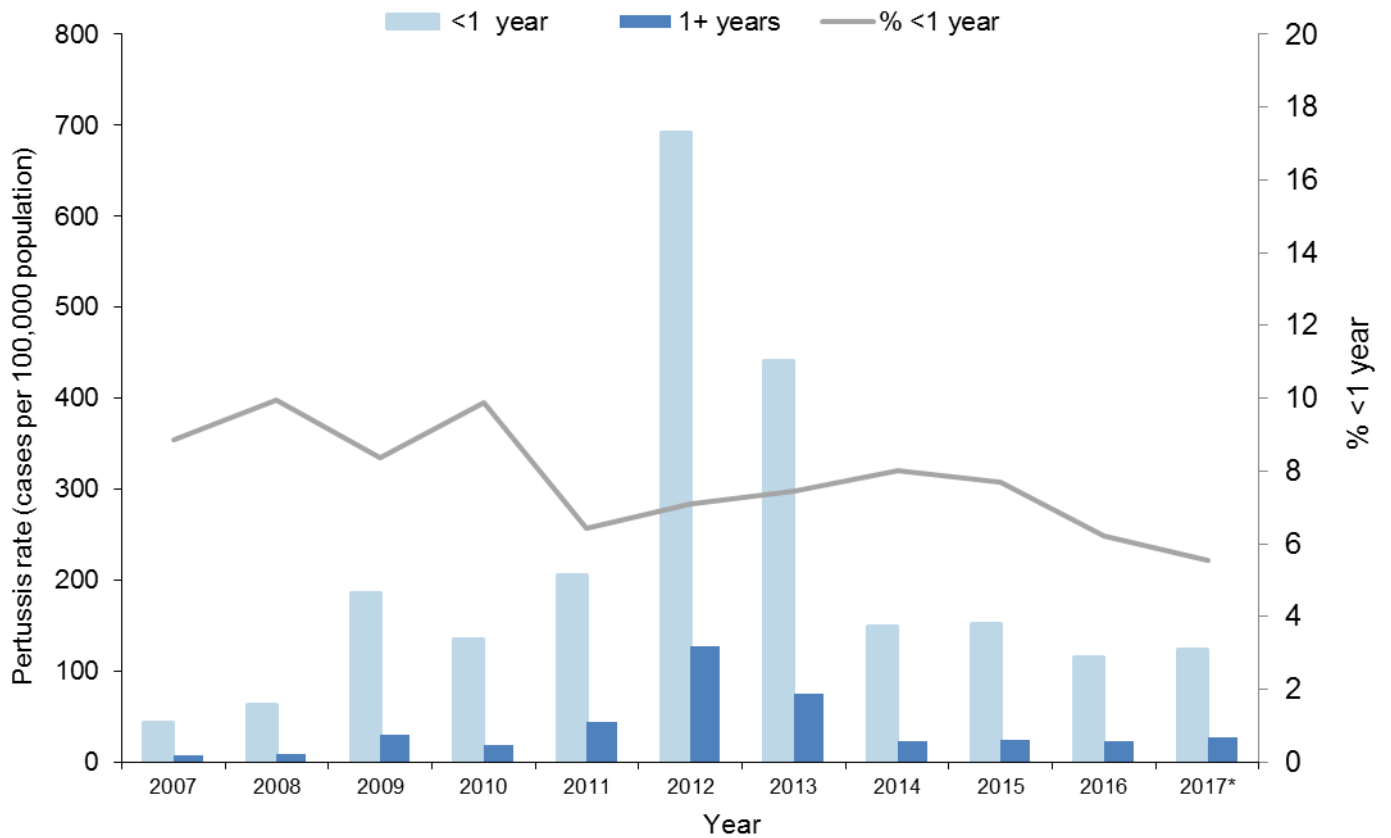
Age group (years)	Recent four surveillance weeks in 2017 (weeks 34–37) ¹		Same four surveillance weeks in 2016 (weeks 34–37) ²	
	Number of cases	Cases hospitalised	Number of cases	Cases hospitalised
<1	9	3	5	4
1–4	11	1	8	0
5–9	24	0	5	0
10–14	23	0	5	1
15–19	10	0	9	1
20+	66	0	42	1
All ages	143	4	74	7

¹ 19 August–15 September 2017

² 20 August –16 September 2016

Pertussis rates by age group (<1 year and 1+ years) are shown in Figure 3.

Figure 3: Pertussis rate (cases per 100,000 population) by age group (<1 year vs. 1+ years), and % < 1 year olds, 2007–2017



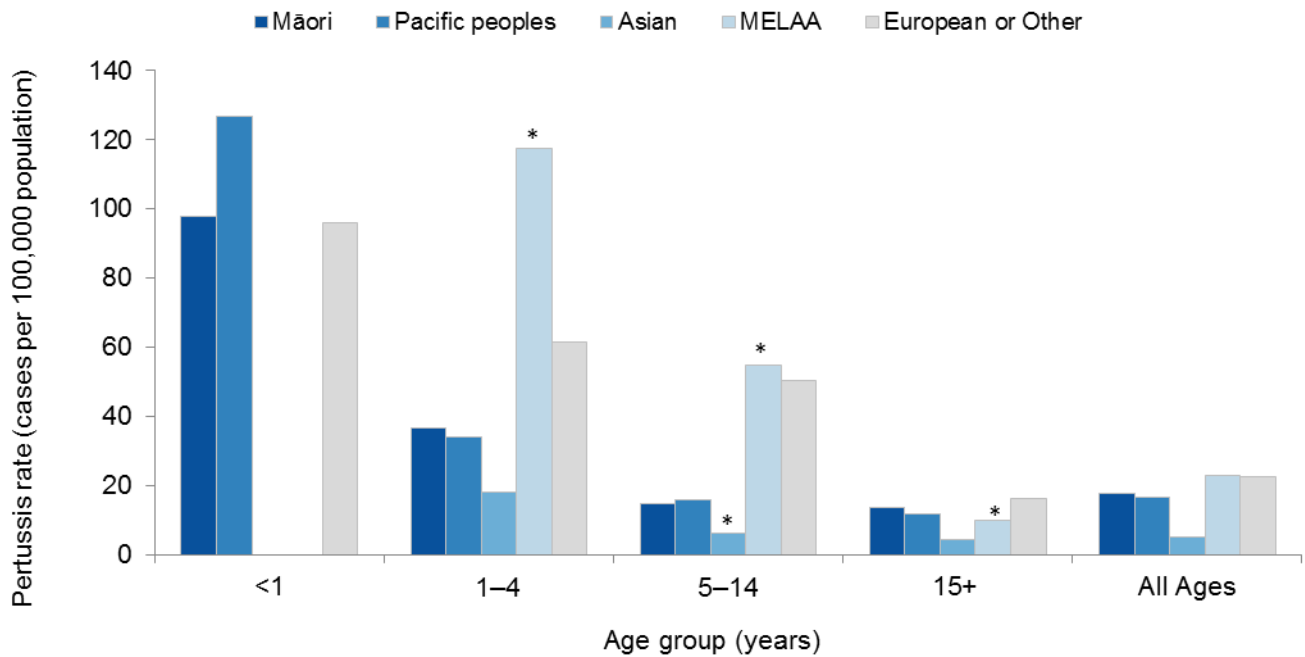
Note: Includes confirmed, probable and suspect cases only. Rate of pertussis cases per 100,000 population calculated using mid-year population estimates.

*Rate for 2017 is an annualised rate. As this is an estimate for the year based on currently available data, it may differ from non-annualised rates presented elsewhere in this report for these age groups.

Ethnicity

Pertussis rates by age group and ethnicity are shown in Figure 4.

Figure 4: Pertussis rate (cases per 100,000 population) by age group and ethnicity, 1 January–15 September 2017



Note: Notifications 1 January–15 September 2017, includes confirmed, probable and suspect cases only. Ethnicity is prioritised. Denominator data used to determine disease rates for ethnic groups are based on the proportion of people in each ethnic group from the estimated resident 2013 Census population applied to the 2016 mid-year population estimates from Statistics New Zealand.

* Rate based on fewer than five cases. MELAA: Middle Eastern/Latin American/African.

District health board

The numbers and rates of pertussis notifications by DHB are shown in Table 3 below.

Table 3: Number of (confirmed, probable and suspect) pertussis notifications, rate (cases per 100,000 population) and hospitalisations by district health board, 2017

District health board	Total for 2017 ¹			<1 year old ¹		19 August–15 September 2017		
	Cases	Rate ²	Hosp ³	Cases ⁴	% ⁵	Cases	Hosp ³	<1 year old ⁴
Northland	11	6.4	0	0	0.0	3	0	0
Waitemata	84	14.2	13	6	7.1	9	1	2
Auckland	60	11.8	6	3	5.0	8	1	1
Counties Manukau	41	7.7	13	5	12.2	4	0	2
Waikato	69	17.3	7	6	8.7	16	0	1
Lakes	31	29.1	2	3	9.7	7	0	0
Bay of Plenty	37	16.3	5	5	13.5	7	0	0
Tairāwhiti	11	23.0	2	2	18.2	2	1	1
Taranaki	48	41.1	0	0	0.0	18	0	0
Hawke's Bay	48	29.7	1	2	4.2	6	0	0
Whanganui	5	7.9	1	1	20.0	0	0	0
MidCentral	16	9.2	0	1	6.3	0	0	0
Hutt Valley	39	26.7	1	0	0.0	7	0	0
Capital & Coast	104	33.9	2	5	4.8	4	0	0
Wairarapa	3	-	0	0	0.0	2	0	0
Nelson Marlborough	51	34.8	2	1	2.0	5	0	0
West Coast	4	-	0	0	0.0	1	0	0
Canterbury	122	22.6	2	5	4.1	23	0	0
South Canterbury	3	-	0	0	0.0	0	0	0
Southern	151	47.4	10	7	4.6	21	1	2
Overall	938	20.0	67	52	5.5	143	4	9

¹ Cumulative notifications 1 January–15 September 2017.

² Rate of pertussis cases per 100,000 population calculated using 2016 mid-year population estimates. Rates have not been calculated where fewer than five cases were notified.

³ Number of notifications that were hospitalised.

⁴ Number of notifications in the <1 year age group.

⁵ Percentage of notifications that were <1 year age group

This report is available at: <http://www.surv.esr.cri.nz/surveillance/PertussisRpt.php>